

Texas Birth Defects Monitor

Texas Department of Health

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From the Director



The last six months have been exciting, because a great deal has been accomplished. The pilot for the Texas Birth Defects Registry is winding down. In pilot Regions 6 (Houston) and 11 (South Texas), staff have abstracted all 1994 and many of the 1995 cases. We are nearing completion of the computer programs that check and process abstracted data.

Referral: I am pleased to report that in Region 11 (South Texas), we have begun the referral program for those children born in 1995 and identified for inclusion in the Registry. Preliminary reports indicate a substantial proportion of these children are being enrolled into services for the first time. I look forward to sharing data on this program as it develops.

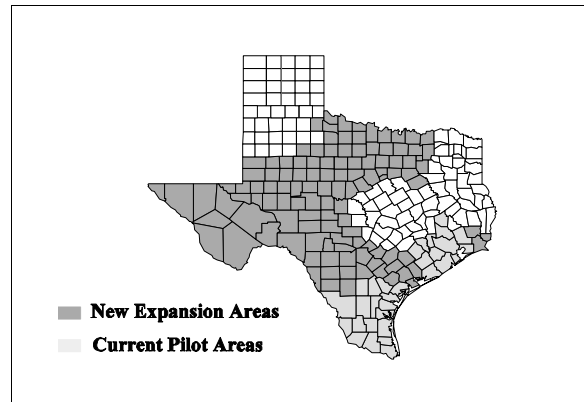
Early Childhood Intervention: In 1997, a collaborative effort between two programs will voluntarily enroll applicants to Early Childhood Intervention (ECI) with birth defects into the Texas Birth Defects Registry. This joint project will be piloted over the summer in one or two counties of each pilot region.

Clusters: A final report, available from the Texas Birth Defects Monitoring Division, has been issued for the Down syndrome cluster investigation conducted in Ellis, Hood, and Somervell Counties (south/southwest of Dallas/Ft. Worth). After conducting extensive interviews with 18 case families, no cause was identified or suggested for this cluster. Copies of the report may be obtained by contacting Peter Langlois, Ph.D., Senior Epidemiologist, at (512) 458-7232.

The Registry May Be Coming to a Place Near You

Beginning with 1997 deliveries, the Texas Birth Defects Registry will expand substantially, from a coverage of 35% of Texas live births in the current pilot to nearly 80% once expansion is implemented (see Figure 1).

Figure 1: Pilot and Proposed Expansion Regions of the Texas Birth Defects Registry



The Registry was piloted in Public Health Regions 6 (Houston) and 11 (South Texas) (see Figure 1, above). Unfortunately, funding was insufficient to expand statewide. Therefore, the Division spent approximately six months collecting data to help arrive at the decision of where to expand. The additional regions that were chosen are shown in Figure 1.

With this expansion, the Registry will include over 250,000 resident live births. In addition, it will cover the entire Texas-Mexico border, all of the Texas Gulf Coast, and every major metropolitan area of Texas except Austin.

Folic Acid and The Border Diet

In the early 1990s, a cluster of neural tube defects (anencephaly and spina bifida) was the focus of an intensive investigation in Cameron and Hidalgo Counties, both of which border Mexico. Elevated rates were confirmed in both counties for 1990-91. During the time period of this investigation, several important studies demonstrated that daily consumption of 400 micrograms (μg) of the vitamin folic acid would prevent approximately 50% of the cases of neural tube defects. Based on these studies, recommendations were issued in 1992 by the Centers for Disease Control and Prevention that all women capable of becoming pregnant consume 400 μg of folic acid daily.

In 1993, a dietary survey was conducted among women residing in selected Texas counties bordering Mexico. Three hundred women, half of them pregnant, were randomly selected to provide a 24-hour dietary recall (supplements excluded).

Among non-pregnant residents of Cameron, Hidalgo, El Paso, and Webb Counties, the estimated mean daily consumption of folic acid through dietary sources was 270 μg (95% confidence interval (CI): 205-335). This level of intake was significantly lower than the recommended level of 400 μg , but not significantly different than that observed for a non-pregnant sample of the U.S. Hispanic population during the period 1988-91. In the latter survey (the Third National Health and Nutrition Examination Survey), non-pregnant American women between the ages of 20-59 were found to have a daily folic acid dietary intake of 249 μg (95% CI: 231-267).

For Texas border counties, the estimated daily folic acid dietary intake for pregnant

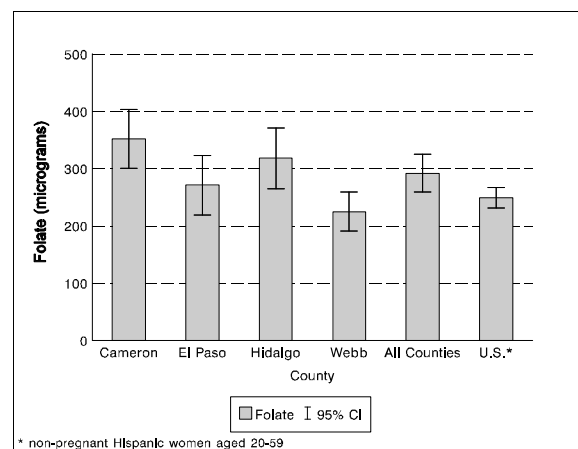
residents (312 μg ; 95% CI=239-385) was higher than for non-pregnant residents, but the difference was not significant statistically. Like the non-pregnant group, intake for the pregnant group was significantly lower than the recommended level of 400 μg .

For pregnant and non-pregnant residents combined, folic acid consumption in Webb County was significantly lower than in Cameron and Hidalgo Counties (see Figure 2), where numerous prevention efforts had been targeted after the cluster. In 1993, Webb County experienced a rate of neural tube defects that was higher (though not statistically) than that for Cameron and Hidalgo Counties (source: Texas NTD Project).

For more information or for a copy of the report entitled "Dietary Survey along the Texas-Mexico Border, 1993," contact Claire Heiser at (512) 458-7785.

Contributed by: Claire Heiser, M.S., R.D., Bureau of Nutrition Services, Texas Department of Health and R. Sue McPherson, Ph.D., The University of Texas School of Public Health, Houston. Data analysis and chart development provided by Kenneth Condon.

Figure 2: Dietary Consumption of Folic Acid (Folate) in Selected Border Counties, Texas, 1993





Update from the Texas Neural Tube Defect Project (TNTDP)

The three components of the TNTDP are surveillance, intervention, and a case-control study. The primary goal of the TNTDP is the prevention of the recurrence of NTDs among those women identified by the surveillance. The intervention component entails enrollment of these high-risk women in a program providing folic acid supplementation and education about NTDs.

All women identified through the surveillance protocol are contacted by telephone, letter, and/or in person. Women who live outside the study area and women with NTD-affected pregnancies before 1993 are provided education but not given folic acid. Those women with a pregnancy that was delivered or terminated in 1993 or later and who reside in the study area are enrolled in the intervention program. These women are interviewed and provided preconception; pregnancy; and NTD risk-reduction education and counseling. If they are contracepting, they are given a multivitamin with 0.4 mg folic acid; if they are not, they are placed on a daily regimen of a multivitamin with 4 mg folic acid. [Editor note: 0.4 mg folic acid is equivalent to 400 µg, as used in preceding article.]

From January 1, 1993, through December 31, 1995, 190 women have been identified who meet the full intervention case definition. As of March 31, 1996, 33 (17%) of the 190 women are not currently eligible for enrollment. Of the 157 eligible women, 59 (38%) refused enrollment, quit, or were lost; 11 (7%) consented but are pending enrollment or are pregnant; and 87 (55%) are on folic acid.

Enrollment in the intervention component of the Project varies by field team and outcome. Women enrolled by the Laredo or Harlingen teams are more likely than those enrolled by the El Paso team to consent to take folic acid ($p = .006$). Also, women with natural outcomes (e.g., live born, stillborn, or spontaneous abortions) were more likely (50.4%) than those with induced abortions (36.8%) to take folic acid ($p = 0.086$).

Contributed by: Texas Neural Tube Defect Project, Texas Department of Health. For additional information on NTDs or the Project, please contact Russ Larsen, Ph.D., M.P.H. at (512) 458-7328.

Announcements

Correction from last newsletter: The *correct* address of the new Houston regional office:

Texas Birth Defects Monitoring Division
Texas Department of Health, Region 6/5 South
5425 Polk Ave., Suite J
Houston, TX 77023-1497

Useful Phone Numbers

Information and Referral for Women and Children in Texas: 1-800-4-BABYLOVE.

A toll-free number operated by the Bureau of Women and Children, Texas Department of Health. Provides information on services for pregnant women and medically fragile children.

Information and Referral for Children with Disabilities and Delays: 1-800-250-2246.

A toll-free number operated by the State and Federal program for Early Childhood Intervention (ECI). The "ECI Care Line" can provide information on services available for children (from birth to three years of age) with disabilities and delays, as well as their families.

The *Texas Birth Defects Monitor* is published by the Texas Department of Health.

Walter Wilkerson, Jr., M.D.
Chair, Texas Board of Health

David R. Smith, M.D.
Commissioner of Health

Diane Simpson, M.D., Ph.D.
State Epidemiologist and
Associate Commissioner,
Disease Control and Prevention

Dennis Perrotta, Ph.D., C.I.C.
Chief, Bureau of Epidemiology

Mark A. Canfield, Ph.D., Editor
Director, Texas Birth Defects
Monitoring Division

Graphics and layout provided by
Dan Driggers, Surveillance Coordinator,
Texas Birth Defects Monitoring Division.

To be added to the mailing list for this or
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please call (512) 458-7232
or use the following e-mail address :
swicker@epi.tdh.state.tx.us

How to reach us:

Austin: (512) 458-7232
Houston: (713) 767-3310
Harlingen: (210) 423-0130

Texas Birth Defects Monitoring Division
Bureau of Epidemiology
Texas Department of Health
1100 West 49th Street
Austin, Texas 78756-3180

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